

6105.0 - Australian Labour Market Statistics, Oct 2003

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Summary

Main Features

FEATURE ARTICLE - LABOUR MARKET TRANSITIONS OF TEENAGERS

FEATURE ARTICLE - TECHNICAL REPORT: NEW LABOUR FORCE SURVEY SAMPLE SELECTIONS - ANALYSIS OF THE EFFECT ON ESTIMATES

LABOUR MARKET SUMMARY

KEY MEASURES

Measure	Units	Period	Current figure	% change from	
				Previous quarter (a)	Previous year (b)
Employed - Trend					
Persons	'000	Aug 2003	9,496.1	-0.2	1.7
Full-time	'000	Aug 2003	6,781.2	-0.1	1.4
Part-time	'000	Aug 2003	2,714.9	-0.4	2.6
Part-time employment as a proportion of total employment	%	Aug 2003	28.6	(c) -0.1	(c) 0.2
Unemployed - Trend					
Persons	'000	Aug 2003	608.3	-1.7	-1.5
Looking for full-time work	'000	Aug 2003	456.0	-2.6	-0.4
Looking for part-time work	'000	Aug 2003	152.3	1.2	-4.5
Unemployment rate - Trend					
Persons	%	Aug 2003	6.0	(c) -0.1	(c) -0.2
Long-term unemployment - Trend					
Persons	'000	Aug 2003	134.0	-1.5	-1.2
As a proportion of total unemployment	%	Aug 2003	22.0	(c) 0.0	(c) 0.1
Labour force underutilisation rate - Original (d)	%	Sep 2002	11.9	na	-0.6
Extended labour force underutilisation rate - Original (d)	%	Sep 2002	13.0	na	-0.6
Proportion of children living in families where no parent is employed (of all children) (e)	%	Jun 2003	17.2	na	-0.7
Labour force participation rate - Trend					
Persons	%	Aug 2003	63.5	(c) -0.4	(c) -0.1
Actual hours worked - Original					
Aggregate weekly hours	mill. hours	Aug 2003	327.5	-0.7	1.3
Average weekly hours - Persons	hours	Aug 2003	34.6	-0.0	-0.5
Average weekly hours - Full-time	hours	Aug 2003	42.0	-0.3	-0.1
Average weekly hours - Part-time	hours	Aug 2003	16.4	0.1	-1.4
Part-time workers - Original					
Proportion who preferred to work more hours	%	Aug 2003	25.4	(c) -0.3	(c) 0.2
Wage cost index - Original					
Total hourly rates of pay excluding bonuses	index no.	Jun qtr 2003	120.1	0.6	3.6
Average weekly earnings - Trend					
Full-time adult ordinary time earnings	\$	May 2003	918.80	1.7	5.7
All employees total earnings	\$	May 2003	725.40	1.5	5.2
Compensation of employees - Trend					
Household income account	\$m	Jun qtr 2003	92,084	1.5	6.6
Average earnings (National Accounts basis - nominal) per week	\$	Jun qtr 2003	881	0.8	2.8
Industrial disputes - Original					
Working days lost	'000	Jun qtr 2003	55.3	-16.5	-12.8
Working days lost per 1,000 employees	number	Jun qtr 2003	6.7	-16.4	-15.3
Job vacancies - Trend					
Australia	'000	Aug 2003	104.3	-1.7	5.1

Footnotes:

na not available

(a) Same period previous quarter (monthly data is presented for the middle month of each quarter).

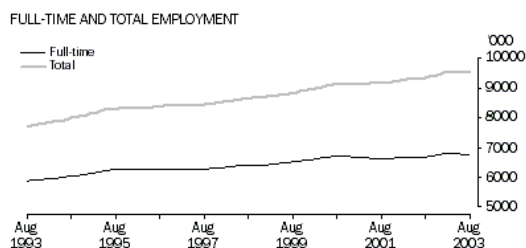
(b) Same period previous year.

(c) Change is in percentage points.

(d) See table 4.1 or the Glossary for further explanation of labour underutilisation rates.

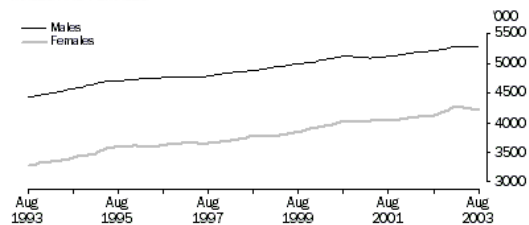
(e) Children are aged under 15 years. See the Explanatory Notes for information on family data.

EMPLOYMENT: TREND SERIES



Sources: Labour Force Survey.

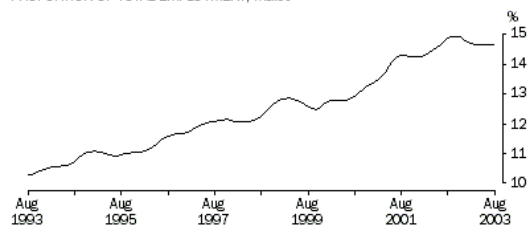
MALES AND FEMALES



Sources: Labour Force Survey.

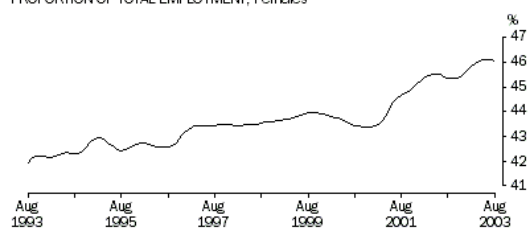
PART-TIME EMPLOYMENT: TREND SERIES

PROPORTION OF TOTAL EMPLOYMENT, Males



Sources: Labour Force Survey.

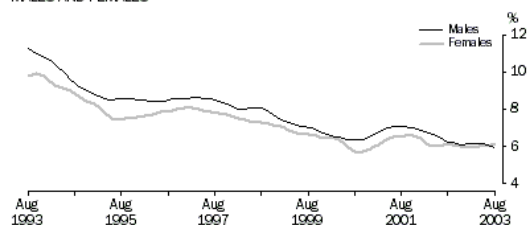
PROPORTION OF TOTAL EMPLOYMENT, Females



Sources: Labour Force Survey.

UNEMPLOYMENT RATE: TREND SERIES

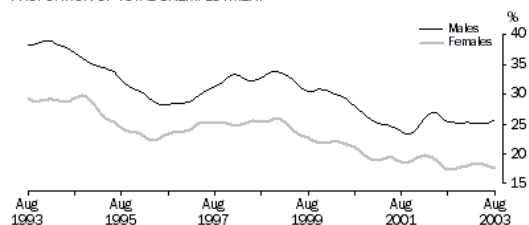
MALES AND FEMALES



Sources: Labour Force Survey.

LONG-TERM UNEMPLOYMENT: TREND SERIES

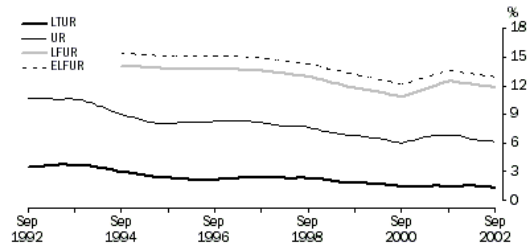
PROPORTION OF TOTAL UNEMPLOYMENT



Sources: Labour Force Survey.

UNDERUTILISED LABOUR

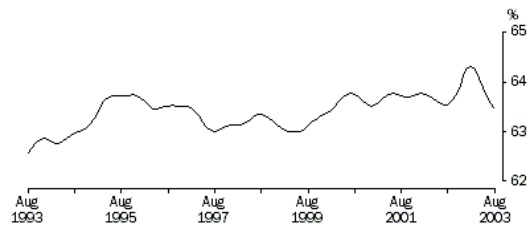
LABOUR UNDERUTILISATION RATES—1994–2002



Notes: LTUR — long-term unemployment rate
 UR — unemployment rate
 LFUR — labour force underutilisation rate
 ELFUR — extended labour force underutilisation rate.
 See table 4.1 or the Glossary for further information on the labour underutilisation rates.
 Sources: Labour Force, Underemployed Workers, and Persons Not in the Labour Force Surveys.

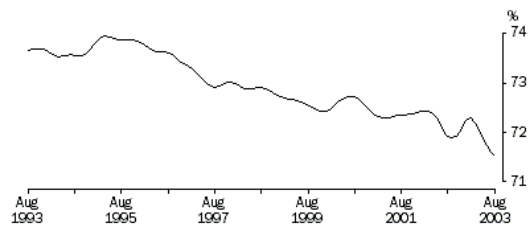
PARTICIPATION RATE: TREND SERIES

PERSONS



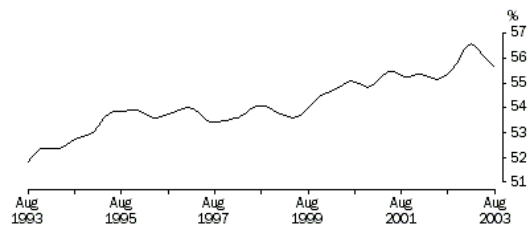
Sources: Labour Force Survey.

MALES



Sources: Labour Force Survey.

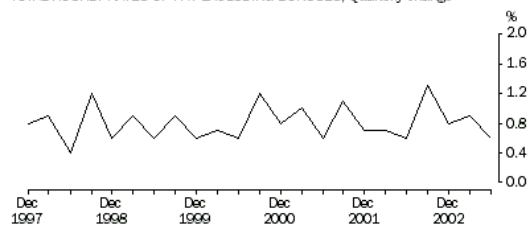
FEMALES



Sources: Labour Force Survey.

WAGE COST INDEX: ORIGINAL SERIES

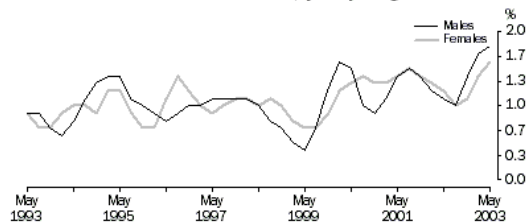
TOTAL HOURLY RATES OF PAY EXCLUDING BONUSES, Quarterly change



Sources: Wage Cost Index.

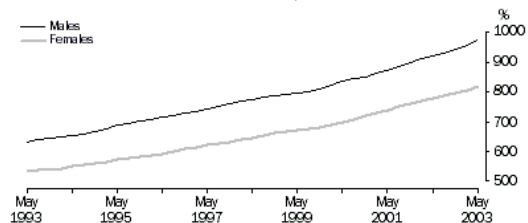
AVERAGE WEEKLY EARNINGS: TREND SERIES

FULL-TIME ADULT ORDINARY TIME EARNINGS, Quarterly change



Sources: Survey of Average Weekly Earnings.

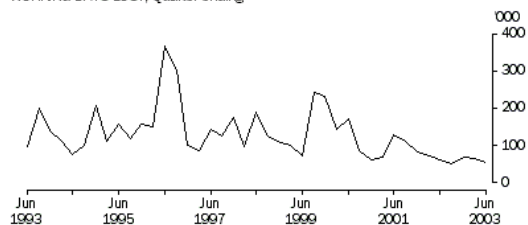
FULL-TIME ADULT ORDINARY TIME EARNINGS, Level



Sources: Survey of Average Weekly Earnings.

INDUSTRIAL DISPUTES: ORIGINAL SERIES

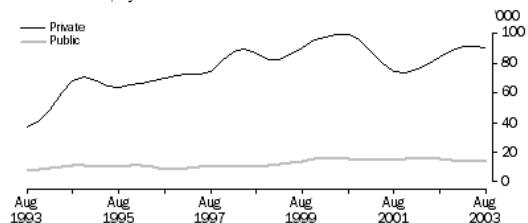
WORKING DAYS LOST, Quarter ending



Sources: Industrial Disputes.

JOB VACANCIES: TREND SERIES

JOB VACANCIES, By sector



Sources: Survey of Job Vacancies.

LABOUR STATISTICS NEWS

LABOUR THEME PAGE

The ABS Labour Theme Page, available on the ABS web site, provides a guide to the range of ABS statistics on the labour market, as well as links to the latest data released. To find the Theme Page, go to <http://www.abs.gov.au>.

INTRODUCTION OF COMPUTER ASSISTED INTERVIEWING TO THE LFS

In October 2003, the ABS will begin the progressive implementation of computer assisted interviewing (CAI) into the Labour Force Survey (LFS). LFS interviewers currently record survey responses by hand onto a paper questionnaire; under CAI, interviewers will record responses directly into a laptop computer. Most other ABS household surveys currently use CAI. To minimise the chance of any impact on the labour force series from the change, the current questionnaire and procedures will be replicated as closely as possible under CAI.

Users will be informed of the progress of CAI implementation, including the results of impact studies, through updates in **Labour Force, Australia** (cat. no. 6202.0).

FORMAT CHANGES TO INITIAL RELEASE LFS PRODUCTS

The format of the publication **Labour Force, Australia** (cat. no. 6202.0), and other products associated with the initial release of monthly data from the LFS, will be changing from the November 2003 issue.

These changes, including the revised layout of the publication, will be detailed in the second issue of **Information Paper: Changes to Labour Force Survey Products** (cat. no. 6297.0), scheduled to be released on 23 October 2003.

IMPROVEMENTS TO LFS SEASONAL ADJUSTMENT PROCESS

Concurrent seasonal adjustment will be introduced for the LFS from the December 2003 reference period. At the same time, other improvements will be made to the seasonal adjustment methodology to deal better with factors such as the moving January interview start date and other holiday proximity effects.

Concurrent seasonal adjustment uses original data up to and including the current time period to produce seasonally adjusted and trend series. Seasonally adjusted estimates from this method are usually closer on average to their final values, as any change in seasonality is picked up sooner. Revisions under this method are more frequent (e.g. every month for a monthly series), although the degree of revision is generally less than with the forward factor method of adjustment (where revisions are made annually).

An information paper explaining the changes is expected to be released in December 2003.

LFS STANDARD ERRORS

The publication **Information Paper: Labour Force Survey Standard Errors** (cat. no. 6298.0) is now due for release in late 2003. Accompanying the release of this paper will be the release, through the Labour Theme page, of a spreadsheet that automates the process of calculating standard errors for most estimates produced from the Labour Force Survey.

EMPLOYMENT SERVICES

Results from the 2001-02 Employment Services Survey was released on 5 August 2003 in **Employment Services, Australia** (cat. no. 8558.0). This survey provides a measure of the financial and business structure of employment placement and contract staff services organisations operating in Australia.

INTERPRETING TIME SERIES

A comprehensive information paper **A Guide to Interpreting Time Series - Monitoring Trends** (cat. no. 1349.0) was released on 4 August 2003. It provides assistance in understanding ABS trend estimation methodology, and interpreting ABS time series. This paper is only available electronically, and is available free on the ABS web site. To find the information paper, go to <<http://www.abs.gov.au>> (Publications - 1.3 Year books and other multi-subject products - 1349.0 Information Paper: A Guide to Interpreting Time Series - Monitoring Trends).

SUPPLEMENTARY SURVEYS ON LABOUR TOPICS

The Monthly Population Survey comprises the Labour Force Survey and a range of supplementary surveys, which provide detailed information on a range of topics. Results were recently released for two labour-related topics: **Labour Force Experience, Australia** (cat. no. 6206.0), and **Career Experience, Australia** (cat. no. 6254.0). Also available are detailed data cubes for labour force characteristics of families, for June 2003. These releases are outlined in the recent release section of this publication.

LFS ESTIMATES FOR INDIGENOUS AUSTRALIANS

The first Labour Force Survey estimates for Indigenous Australians were planned to be released in this issue. However, delays encountered in producing estimates using the new methodology have resulted in the estimates for 2002 being delayed until early 2004.

RECENT AND UPCOMING STATISTICAL RELEASES

Release date/title of publication	Reference period	Catalogue number
October 2003		
Australian Labour Market Statistics	October 2003	6105.0
Industrial Disputes, Australia	July 2003	6321.0
General Social Survey, Australia	Mar to Jul 2002	4159.0
Information Paper: Changes to Labour Force Survey Products	2003	6297.0
Information Paper: Labour Force Survey Standard Errors	2003	6298.0
Labour Force, Australia	September 2003	6202.0
November 2003		
Average Weekly Earnings, Australia	August 2003	6302.0
Industrial Disputes, Australia	August 2003	6321.0
Labour Force, Australia	October 2003	6202.0
Wage Cost Index, Australia	September quarter 2003	6345.0
Workplace Functions in Regional Labour Markets, Queensland	1976 to 2001	6601.3
December 2003		
Education and Work, Australia	May 2003	6227.0
Indigenous Social Survey, Australia	2002	4714.0
Industrial Disputes, Australia	September 2003	6321.0
Labour Force, Australia	November 2003	6202.0
Medical Labour Force, Australia	2000	8908.0
January 2004		
Australian Labour Market Statistics	January 2004	6105.0
Industrial Disputes, Australia	October 2003	6321.0
Job Vacancies, Australia	November 2003	6354.0
Labour Force, Australia	December 2003	6202.0
Wage and Salary Earners, Public Sector, Australia	September 2003	6248.0

About this Release

ABOUT THIS RELEASE

Replaces: Labour Force, Australia 6203.0

This publication is the flagship release for all ABS labour statistics. It draws together data from a range of sources, mostly ABS household and business surveys, to provide an overall picture of the labour market. The key purpose of this publication is to raise awareness of the data available, so that users will be able to use it more effectively.

It contains tables for core data items, presenting the most recent data available at a particular date (rather than relating to a particular reference period). It is also able to be used to announce the release of supplementary surveys and infrequent surveys. Note that, in addition to a brief article in this publication, these would also have separate releases, which would not be delayed by the release in this publication.

The publication is also used to release annual data on Indigenous labour force status, and annual supplementary measures of labour underutilisation. It includes a range of feature articles, both analytical and technical, which will assist users in understanding and interpreting the data and will also promote the range of data available from the ABS labour statistics program. It will be used to announce any changes to labour series or releases.

The publication contains brief explanatory notes, outlining each data source, but referring to the relevant releases, and to Labour Statistics: Concepts, Sources and Methods 6102.0, for more detail.

Labour market transitions of teenagers (Feature Article)

Feature Article - Labour market transitions of teenagers

This article was published in the October 2003 issue of **Australian Labour Market Statistics** (cat. no. 6105.0).

INTRODUCTION

This article analyses differences in the labour market outcomes for teenagers and adults, using data from the ABS monthly Labour Force Survey (LFS). For purposes of this article, teenagers are defined as those aged 15-19 years, and adults as those aged 25-54 years, representing the main working years.

In July 2003, teenagers had an unemployment rate of 13% and a participation rate of 57%, compared with an unemployment rate of 6% and a participation rate of 80% for adults. However, in assessing these measures, it is necessary to consider the differences in the labour market experiences of teenagers and adults, with many teenagers focussing on education, while others are seeking to enter full-time employment for the first time.

LABOUR FORCE STATUS AND EDUCATION

LABOUR FORCE STATUS AND EDUCATIONAL ATTENDANCE OF TEENAGERS (a), July 2003

	Employed			Unemployed	Not in the labour force	Total	Unemployment rate	Participation rate
	Full-time '000	Part-time '000	Total '000	'000	'000	'000	%	%
Not in full-time education	221.4	88.4	309.7	45.7	62.4	417.9	12.9	85.1
In full-time education	18.7	348.0	366.7	58.1	532.5	957.3	13.7	44.4
Total persons aged 15-19	240.1	436.4	676.4	103.8	594.9	1,375.1	13.3	56.7
% in full-time education	7.8	79.7	54.2	56.0	89.5	69.6

Footnotes

.. not applicable
(a) Aged 15-19.

Source: Labour Force Survey.

Around 70% of teenagers are involved in full-time education. Of the other 30%, almost a quarter (23%) are in part-time education (based on the May 2002 Survey of Education and Work), with the remainder not participating in education.

Labour force status is derived independently of a person's educational status. While many teenagers studying full-time are not in the labour force (56% in July 2003), others engage in part-time work and so would be classed as employed. Teenagers studying full-time and actively looking for a part-time job would be classed as unemployed in the LFS.

The measures of labour force status represent only part of the different nature of teenagers' participation in the labour force. Another important factor is the frequency of movement between different labour force states, particularly between teaching and holiday periods. The following paragraphs present a broader picture of the labour market experience of teenagers by analysing the transitions among the states of full-time employment, part-time employment, unemployment and not in the labour force.

GROSS FLOWS ANALYSIS

A comparison between the labour force transitions of teenagers and adults can be made by analysing monthly gross flows data from the LFS. Households selected for the LFS are interviewed over eight consecutive months, and people who respond in two consecutive months form a 'matched sample'. This data can be used to examine the monthly transition between the various labour force states, over a series of consecutive months.

The matched sample usually represents about 80% of all people in the LFS. About two-thirds of the remaining (unmatched) 20% of people in the survey have characteristics similar to those in the matched group, but the characteristics of the other one-third are likely to be somewhat different. This is discussed in more detail in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0).

The analysis in this article looks at the proportion of people moving between the labour force states of employed full-time, employed part-time, unemployed and not in the labour force between any two consecutive months during the period July 2001 to June 2003. Comparisons are made between teenagers aged 15 to 19 and adults aged 25 to 54 (representing main working years, after the completion of initial education and training, prior to retirement).

LEVELS OF TRANSITION

The type of labour market activity of teenagers changes more frequently than that of adults. Gross flows data for the period July 2001 to June 2003 shows that, on average, teenagers were three times as likely to change their labour force state as adult men, and two times as likely to change their labour force state as adult women. The proportion of people who changed their labour force state between two consecutive months, on average over this period, was 16% for teenagers, compared to 7% for women aged 25 to 54, and 5% for men aged 25 to 54.

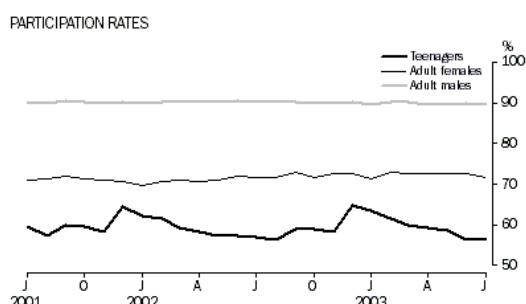
The labour force transitions for teenagers showed a high level of seasonality. In the period studied, the proportion of teenagers changing labour force states between two consecutive months was usually between 13% and 15% from April to October, but considerably higher between November and March.



The rise in labour force transitions for teenagers between November and March coincides with the end of one academic year and the start of another.

LABOUR FORCE PARTICIPATION

The graph below shows the labour force participation rates for teenagers and adults. The data shown is as originally estimated, without any adjustment for seasonal effects.



The labour force participation rate of teenagers (between 55% and 65%) is much lower than that of adult men (around 90%), and slightly lower than that for adult women (around 70%). The peaks in the participation rate for teenagers between November and February show that the increase in transitions in this period is, in part, related to their joining the labour force during the academic holidays and, for some, at the completion of their formal education.

TRANSITIONS FROM NOT IN THE LABOUR FORCE

During the period of study, the proportion of teenagers who were not in the labour force in one month and who joined the labour force in the following month was about the same as for adult men (around 17%), and higher than for adult women (10%). Teenagers joining the labour force and entering employment were most likely to take up part-time work (85% of those who moved to employment worked part-time). The percentage for women who took up part-time work (78%) was closer to that of teenagers than men (39%).

PROPORTION OF PEOPLE CHANGING STATES FROM NOT IN THE LABOUR FORCE

	Staying outside the labour force	Entering full-time employment	Entering part-time employment	Entering unemployment
	%	%	%	%
Teenagers (aged 15-19)	83.3	1.2	7.0	8.5
Adults (aged 25-54)	88.0	2.6	4.8	4.6
Females (aged 25-54)	89.5	1.5	5.2	3.7
Males (aged 25-54)	83.0	5.8	3.7	7.5

EMPLOYMENT

Teenagers were less likely to be employed than adults, and were also more likely to be working part-time than adults. Overall, the proportion of teenagers working part-time was between 60% and 70%, with the rate for women lower, at around 40%, and the rate for men lower still, at under 10%.

TRANSITIONS FROM FULL-TIME EMPLOYMENT

The proportion of teenagers who were employed full-time in one month and who left full-time employment in the next month was higher, at around 14%, than adult women (9%) or adult men (3%). About one in ten of these teenagers moved to part-time employment, which is consistent with working full-time between academic years, but part-time during teaching periods. Around 5% of teenagers employed full-time in one month were not working in the following month, having become unemployed or left the labour force.

PROPORTION OF PEOPLE CHANGING STATES IF IN FULL-TIME EMPLOYMENT

		From full-time employment			
		Staying full-time employed	Moving to part-time employment	Moving to unemployment	Leaving the labour force
		%	%	%	%
Teenagers (aged 15-19)		85.8	9.7	2.3	2.3
Adults (aged 25-54)		94.7	3.8	0.5	1.0
	Females (aged 25-54)	90.9	7.3	0.4	1.4
	Males (aged 25-54)	96.6	2.0	0.6	0.8

TRANSITIONS FROM PART-TIME EMPLOYMENT

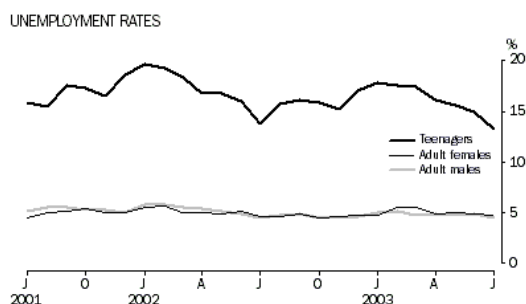
The proportion of people remaining in part-time work in two consecutive months was similar for both teenagers and women at 84%. In contrast, two-thirds of men employed part-time remained in part-time jobs, with one quarter finding full-time employment in the following month. Of those teenagers who left part-time work in the following month, around half left the labour force completely, which may be consistent with returning to study after work during the academic breaks.

PROPORTION OF PEOPLE CHANGING STATES IF IN PART-TIME EMPLOYMENT

		From part-time employment			
		Staying part-time employed	Moving to full-time employment	Moving to unemployment	Leaving the labour force
		%	%	%	%
Teenagers (aged 15-19)		84.0	5.7	2.5	7.8
Adults (aged 25-54)		80.4	12.9	1.6	5.1
	Females (aged 25-54)	83.7	10.2	1.0	5.1
	Males (aged 25-54)	65.9	24.7	4.3	5.1

UNEMPLOYMENT

The unemployment rate for teenagers was considerably higher than that for adults throughout the period. It was also strongly seasonal, being high over an extended period (from December to March), but also relatively low in July and, to a lesser extent, November. The unemployment rate for adults was highest around January and February, but the difference was comparatively slight.



The increases in the rates of teenage unemployment towards the end of each year reflect teenagers seeking work, either for the summer holidays, or as they leave education to join the labour force. Their unemployment rate falls considerably during the start of the next year, as teenagers either find work or return to education.

TRANSITIONS FROM UNEMPLOYMENT

Although the teenage unemployment rate was higher than for adults, teenagers were less likely to remain unemployed than adults, particularly adult men. Around 48% of teenagers unemployed in one month were not unemployed in the next month: 19% having moved into employment (most into part-time work), and 29% having left the labour force (most likely indicating a return to study). In comparison, one third of men and 45% of women unemployed in one month had changed their labour force state in the next month.

PROPORTION OF PEOPLE CHANGING STATES IF IN UNEMPLOYMENT

	Staying unemployed	Entering employment			Moving to not in the labour force
		Part-time	Full-time	All employment	
	%	%	%	%	%
Teenagers (aged 15-19)	51.9	13.7	5.1	18.8	29.3
Adults (aged 25-54)	61.1	10.2	9.5	19.7	19.2
Females (aged 25-54)	54.8	12.8	6.1	18.9	26.3
Males (aged 25-54)	66.1	8.1	12.4	20.5	13.4

SUMMARY

Teenagers have many more transitions between labour force states than adults, reflecting the seasonal nature of combining work and study: they might join the labour force only during breaks during education, or work part-time while studying, and move to full-time employment during holidays. Although unemployment among teenagers is substantially higher than among adults, teenagers are less likely than adults to remain unemployed for two months running.

FURTHER INFORMATION

For further information about the Labour Force Survey, contact Peter Bradbury on Canberra 02 6252 6565, email peter.bradbury@abs.gov.au. For further information about the methods used and the results of the gross flows analysis, please contact Lujuan Chen on Canberra 02 6252 5917, email lujuan.chen@abs.gov.au.

Technical report: New Labour Force Survey sample selections - analysis of the effect on estimates (Feature Article)

Feature Article - Technical report: New Labour Force Survey sample selections - analysis of the effect on estimates

INTRODUCTION

The Labour Force Survey (LFS) provides timely and reliable information on the labour market activity of the usually resident civilian population of Australia aged 15 years and over. The survey has been conducted on a monthly basis since February 1978, and on a quarterly basis since 1960.

Every five years, following the Census of Population and Housing, the LFS sample design is reviewed to ensure that the survey continues to accurately reflect the geographic distribution of the Australian population, and remains both efficient and cost-effective. Following the review based on the 2001 Census, new LFS sample selections were introduced progressively over the period November 2002 to June 2003.

The new private dwelling sample (houses, flats, etc.) in larger urban centres and in the less remote parts of the remainder of the country (representing 82% of the total sample) was phased in over the period November 2002 to June 2003, with 1/8th of this portion of the sample being introduced each month. The remainder of the new sample, which covers less settled areas of Australia and non-private dwellings (hotels, motels, caravan parks, hospitals, boarding houses, etc.), was introduced in two stages: in November 2002 for New South Wales, Victoria, Tasmania, the Northern Territory and the Australian Capital Territory; and in December 2002 for Queensland, South Australia and Western Australia. The **Information Paper: Labour Force Survey Sample Design** (cat. no. 6269.0) contains further details about the 2001 sample design.

IMPACT OF NEW SAMPLE

With this method of implementation, most of the changes to labour force statistics due to the introduction of the new sample should be spread over the eight months. This approach is broadly comparable with that adopted for the 1996 redesign. In contrast, the approach adopted for the 1981 redesign saw the new sample introduced in one month, while in the 1986 and 1991 redesigns, the new sample was introduced over four months.

The monthly growth in seasonally adjusted employment was higher than some commentators expected from November 2002 to January 2003, coinciding with the introduction of almost half of the new sample. In the remaining five months of the sample phase-in period, seasonally adjusted employment estimates fell by 68,300 persons.

CHANGE IN SEASONALLY ADJUSTED EMPLOYMENT ESTIMATES, November 2002 to June 2003

Month	Monthly change '000	Cumulative change '000
November 2002	+60.0	+60.0
December 2002	+52.0	+112.0

January 2003	+94.0	+206.0
February 2003	-12.3	+193.7
March 2003	-42.8	+150.9
April 2003	-14.3	+136.6
May 2003	+29.0	+165.6
June 2003	-27.9	+137.7

Source: Labour Force Survey.

The phase-in of the new LFS sample was undertaken with an overriding objective of maintaining continuity of time series for LFS estimates. The ABS undertook a number of investigations to evaluate whether the phasing-in of the new sample had an impact on LFS estimates. These investigations included:

- analyses of operational procedures associated with the new sample implementation
- analyses of sampling variability during the phase-in period for the new sample, and
- analyses of data from the 2001 Census of Population and Housing to compare the characteristics of incoming and outgoing rotation groups during the phase-in period of the new sample.

The ABS also conducted analyses using two alternative estimation methods that place greater emphasis on the sample that is common between consecutive months of the survey.

In conclusion, these analyses and investigations indicated that the implementation of the new sample had no major effects on the continuity of LFS estimates. As expected, the relative standard errors of estimates of monthly movement increased during the phase-in period. The analysis of the characteristics of incoming and outgoing rotation groups suggests how this increased sample variability might have manifested itself in practice each month. Both alternative estimation methods produced estimates of change in employment over the eight month phase-in period that are similar to the published figure, although with a less volatile pattern. While increased volatility is unavoidable during a phase-in period, these studies have suggested some changes to operational arrangements which may enable the ABS to control elements of that volatility a little better in the post-2006 Census redesign.

ANALYSIS OF OPERATIONAL PROCEDURES

ABS investigations of the possible impact of operational procedures on LFS estimates took a broad focus and included issues relating to: sample design; sample size; survey scope or definitions; response rates; selection; derivation and weighting programs; interviewers; coverage of non-private dwellings; and field and office procedures.

These investigations found no errors that could have contributed to the high employment growth during the phase-in period. There were a number of improvements made to the operational procedures used for the new sample, but these did not have a significant impact on the survey estimates.

SAMPLING VARIABILITY DURING PHASE-IN PERIOD

The ABS analysed sampling variability during the phase-in period of the new sample, focussing on standard errors for estimates of monthly change of employed, unemployed and not in the labour force.

The average sampling variability of level estimates (as measured by standard errors) associated with the new LFS sample design were expected to be broadly comparable to that of the previous sample. The same is true for movement estimates, once the phase-in is complete. However, standard errors of monthly movements were expected to be higher during the sample phase-in period, particularly for the months of November and December 2002.

In the LFS, households are interviewed each month for eight months, with 1/8th of the sample being replaced each month. The replacement (or rotation) of a sample is usually achieved by selecting another cluster of dwellings, generally in close proximity to the dwellings leaving the sample. As a result, the incoming rotation group is likely to possess similar socioeconomic and labour force characteristics to the outgoing rotation group.

The main difference during a phase-in period is that the outgoing rotation groups are not replaced by nearby dwellings. The incoming rotation groups are therefore more likely to exhibit different labour force characteristics to outgoing rotation groups while the new sample is being introduced.

There is no systematic difference between the outgoing and incoming groups. They are both 'random probability' samples of the Australian population, and they both create unbiased estimates of labour force characteristics.

The ABS estimated that the standard errors on estimates of monthly movements during the phase-in of the new sample, compared to estimates based on the old sample, would be increased by 5% for employed persons, 1% for unemployed persons and 3% for persons not in the labour force. The increase in standard errors was expected to be higher still for movements in November and December, as a result of the higher proportion of the new sample being introduced in November and December.

ANALYSIS OF CENSUS RESULTS

Sampling variability occurs because one group of respondents is randomly selected instead of another. It is possible to gain some insight into the specific differences between the outgoing 1996 sample and the incoming 2001 sample by using Collection District (CD) data from the 2001 Census of Population and Housing. While this does not provide information on the differences that existed during the phase-in period, it does shed some light on the types of differences that existed between those CDs in 2001.

For example, the following table shows the employment to population ratio (EPR) for August 2001, for the CDs in the incoming rotation groups and for the CDs in the outgoing rotation groups, for each of the eight months of the sample phase-in period. Differences between the estimated EPRs for the incoming and outgoing rotation groups will contribute to sampling variability.

ESTIMATED EMPLOYMENT TO POPULATION RATIO (a), Collection Districts (b), of outgoing and incoming LFS rotation groups, August 2001

Reference period of rotation group	CDs of outgoing LFS rotation group %	CDs of incoming LFS rotation groups %	Difference (c) % pts
Oct 2002-Nov 2002	57.08	57.54	0.46
Nov 2002-Dec 2002	57.29	58.41	1.12
Dec 2002-Jan 2003	57.33	57.52	0.19
Jan 2003-Feb 2003	58.09	56.87	-1.22
Feb 2003-Mar 2003	57.51	56.99	-0.52
Mar 2003-Apr 2003	56.85	58.21	1.36
Apr 2003-May 2003	57.17	57.07	-0.1
May 2003-Jun 2003	57.18	57.33	0.15
Average	57.31	57.49	0.18

Footnotes

- (a) Employed persons as a proportion of the population aged 15 years and over. Estimates have been adjusted to allow for the differing probabilities of selection for CDs within the LFS.
- (b) Due to difficulties in matching LFS selections to specific collection districts, excludes selected dwellings in Hobart and Darwin, Indigenous strata and more remote areas.
- (c) Differences shown in this table refer to only one rotation group. The difference across all eight rotation groups would be approximately 1/8th of this.

Source: 2001 Census of Population and Housing.

The EPR was chosen as a measure to enable comparison of the level of employment between groups of different sizes. The EPRs for the CDs in incoming rotation groups were higher than those in outgoing rotation groups for the first three months (i.e. in November, December and January), lower for the following two months, higher again for the sixth month and quite similar for the last two months. Since the rotating sample moved, in the first three months, to geographic areas with higher EPRs at the time of the 2001 Census, there is a possibility that these rotation groups contributed to the growth in the LFS employment estimates in these months.

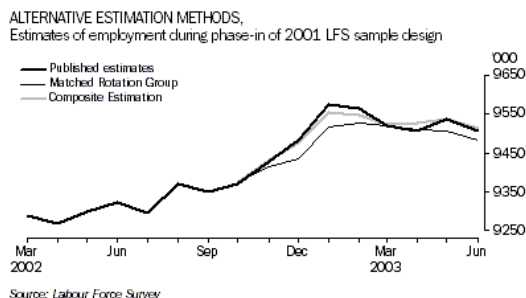
ALTERNATIVE ESTIMATION METHODS

Another way of examining the impact of the sample change is to use the information reported by respondents during the phase-in period, but use alternative estimators that are less sensitive to the sample rotation effects. Note that, while these estimators produce more stable estimates of monthly movement in situations like this, they have other properties that make them less attractive in the usual situations.

The two alternative estimation methods used (matched rotation group, and composite estimation) place greater emphasis on the sample that is common between consecutive months of the survey. See Note on Methodology at the end of this paper for more detail about these estimators.

One drawback to the matched rotation group method is that over time the resulting level estimates drift away from the true level. In addition, the seasonal adjustment process used for both of these analyses was only approximate because the seasonal adjustment was applied to 'hybrid' series. These 'hybrid' series were formed by appending the matched rotation group series (or composite estimation series) for November 2002 to June 2003, to the published employment series for the period to October 2002.

The following graph compares the seasonally adjusted matched rotation group and composite estimation employment series with the published series. The cumulative change in employment over the eight months of the sample phase-in for both alternative methods is similar to the published figure, although the matched rotation group series (and, to a lesser extent, the composite estimation series) has a less volatile monthly pattern than the published series.

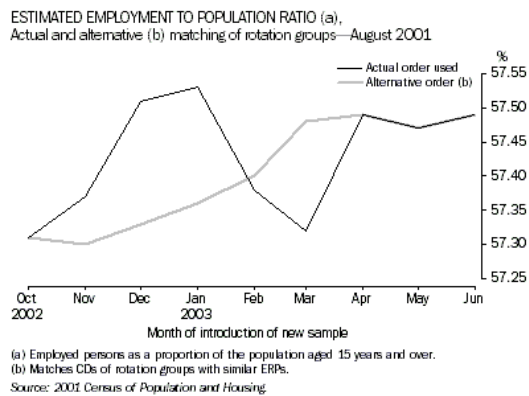


IMPLICATIONS FOR 2006 LFS SAMPLE PHASE-IN

Alternative matching of rotation groups

Rotating in groups from different geographic areas during the phase-in period can have an impact on the sampling variability of the estimates. This is particularly the case when rotation groups with relatively high EPR are replaced by groups with relatively low EPRs, and vice versa.

This phenomenon can be alleviated somewhat by matching outgoing rotation groups with incoming rotation groups with similar EPRs (as measured in the most recent census), and thereby reducing the volatility in survey estimates. The graph below shows how a matching of incoming and outgoing rotation groups could have been used to reduce the differences between the EPRs of these groups.



Investigations for the phase-in of the 2006 LFS sample redesign will look at more closely matching outgoing rotation groups with incoming rotation groups, based on employment characteristics from the 2006 census. This may lead to smaller differences between the old and new samples, and to a smaller contribution of the sample phase-in to LFS sampling variability.

Timing of phase-in period

The 2001 sample redesign was phased in over a period of eight months from November 2002 to June 2003, with around 1/8th of the new private dwelling sample being introduced each month under existing sample rotation arrangements. This reduces the likelihood of dramatic movements directly due to the new sample phase-in, as well as providing operational advantages and helping to minimise sampling error. This strategy, and the timing, will be reviewed for the 2006 sample redesign, drawing upon experiences gained during the 2001 phase-in.

FURTHER INFORMATION

For further information about the analyses in this article please contact Bill Allen on Canberra 02 6252 6302, or via email at bill.allen@abs.gov.au. For information about the Labour Force Survey please contact Craig Blair on Canberra 02 6252 6565, or via email at craig.blair@abs.gov.au.

NOTE ON METHODOLOGY

Matched rotation group method

The matched rotation group method calculates monthly movements using the 7/8ths of selected dwellings that are common between consecutive months under the LFS rotation scheme (i.e. the incoming group of dwellings is dropped from the current month's estimate, and the outgoing group is dropped from the previous month's estimate).

The matched rotation group series shown in this paper has been derived by adding successive estimates of monthly **movement** (beginning with November 2002) to the published **level** estimate for October 2002, and then seasonally adjusting the whole series (as if it were a continuous time series). Hence the seasonally adjusted series is only approximate, because the matched rotation group estimates may have different seasonal characteristics from the published estimates. Also, analysis has shown that there is a small systematic difference in responses between the outgoing and incoming groups of dwellings in the LFS, related to the length of time that respondents have been in the survey. This results in a small bias in the matched rotation group estimates of monthly movement, which will accumulate over time as successive monthly movements are added to the employment estimate for October 2002.

In addition to accumulating bias, the matched rotation group method has higher standard errors than the published series, for estimates of employment change over periods longer than six months.

These deficiencies render the matched rotation group method inappropriate for other than short-term comparisons.

Composite estimation method

The composite estimation method calculates an unbiased estimate of the employment level for any given month. It gives most weight to the dwellings in common with the previous month, but also gives some weight to the outgoing and incoming dwellings. The composite estimation series shown in this paper has been derived by combining original estimates for the period November 2002 to May 2003 with published (original) estimates for the period to October 2002, and then seasonally adjusting the whole series (as if it were a continuous time series). Hence, although the composite estimation method is sound, the seasonally adjusted series is only approximate, because the composite estimates may have slightly different seasonal characteristics from the published estimates.

Further information

Further details of the matched rotation group and composite estimation methods can be found in an article in the May 1998 issue of *Australian Economic Indicators* (cat. no. 1350.0).

Explanatory Notes

Explanatory Notes

INTRODUCTION

1 Australian Labour Market Statistics brings together a range of ABS labour statistics to present a statistical summary of the Australian

labour market. It has been developed primarily as a reference document, and provides a broad basis for labour analysis and research.

2 In addition to data from the Labour Force Survey (LFS), this publication contains statistics from a range of other ABS labour surveys including Average Weekly Earnings, the Wage Cost Index, Job Vacancies, Public Sector Employment and Industrial Disputes. The publication also includes summary data from recently released labour force supplementary surveys.

3 This publication also includes international data for selected labour market indicators. In the future, the publication may also include additional ABS and non-ABS labour market data.

LABOUR STATISTICS CONCEPTS, SOURCES AND METHODS

4 The concepts and definitions underpinning ABS labour statistics align closely with the standards and guidelines set out in Resolutions of the International Conference of Labour Statisticians. Descriptions of the underlying concepts of Australia's labour market statistics, and the sources and methods used in compiling the estimates, are presented in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), which is also available on the ABS web site (About Statistics - Concepts & Classifications).

5 For an explanation of terms used in this publication, refer to the Glossary.

LABOUR STATISTICS THEME PAGE

6 The Labour Statistics theme page is a portal to all labour statistics and related information residing on the ABS web site. The page contains hyperlinks to **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0); information about labour related surveys including the data items each survey collects and contact details for further assistance; and a help page for respondents to ABS labour related surveys.

TREND ESTIMATES

7 Series in this publication include **original** and **trend** series. Special care should be taken in interpreting data for the most recent months and quarters, as some of the original and all of the trend series are subject to revision.

8 It is not uncommon for movements in original time series data and those provided from trend series to differ. Movements in a time series of original data may reflect several factors, including:

- longer-term changes in the item being measured (i.e. trend movements)
- short-term irregular changes
- regular seasonal influences
- normal 'trading', 'working' or 'pay' day patterns
- systematic holiday effects.

9 Trend estimates help the user to identify the underlying magnitude and direction of a time series. Seasonal adjustment removes the effect of the last three listed influences from the data, leaving only trend and short-term irregular movements. Trend estimates are then obtained by removing the effects of the short-term irregularities, which in some series can be a major contributor to movements in the original data.

10 Trend estimates are produced by smoothing the seasonally adjusted series using a statistical procedure based on Henderson moving averages. At each time point in a series, a trend estimate is calculated using a centred x-term Henderson moving average of the seasonally adjusted series. The moving averages are centred on the point in time at which the trend is being estimated. The number of terms used to calculate the trend varies across surveys. Generally, ABS monthly surveys use a 13-term moving average and quarterly surveys use a 7-term moving average.

11 Estimates for the most recent time points cannot be calculated using the centred average method as there are insufficient data to do so. Instead, alternative approaches that approximate the smoothing properties of the Henderson moving average are used. This can lead to revision in the trend estimates for the most recent time periods until sufficient data are available to calculate the trend using the centred Henderson moving average. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors.

12 Seasonal factors are reviewed annually for most ABS labour series, to take account of each additional year's original data. The results of the latest reviews were used to compile the trend estimates given in this publication. Information about the most recent annual review of seasonal factors for the LFS was published in a feature article in the February 2003 issue of **Labour Force, Australia** (cat. no. 6203.0). For further information about the most recent reviews of seasonal factors for the labour employer surveys, see the following publications:

- for average weekly earnings see **Average Weekly Earnings, Australia** (cat. no. 6302.0)
- for public sector employees see **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0)
- for job vacancies see **Job Vacancies, Australia** (cat. no. 6354.0).

13 The general methods used in the ABS for estimating trends are described in **Information Paper: A Guide to Smoothing Time Series - Estimates of Trend** (cat. no. 1316.0).

RELIABILITY OF ESTIMATES

14 Estimates in this publication are subject to two types of error:

- sampling error - errors that occur because the data were obtained from a sample rather than the entire population

- non-sampling error - errors that occur at any stage of a survey and can also occur in a census, e.g. incorrect responses to questions, processing errors, frame deficiencies.

15 For more information on these sources of error, and on measures of these types of errors, including standard errors, refer to the main publications associated with each of the data series presented in this publication (see the relevant sections later in these Explanatory Notes). More information about standard errors applying to LFS estimates is contained in **Information Paper: Labour Force Survey Standard Errors** (cat. no. 6298.0), due to be released in mid-2003.

ROUNDING

16 Estimates have been rounded and discrepancies may occur between sums of the component items and totals.

LABOUR FORCE SURVEY DATA

Description of the survey

17 Data in tables 1.1-1.7, 2.1-2.10, 3.1-3.3, 4.3 and 4.4 are obtained from the Labour Force Survey (LFS), which provides extensive information about the labour market on a monthly basis. The LFS is a component of the Monthly Population Survey (MPS), which includes the LFS and supplementary surveys.

Monthly Population Survey

18 The MPS is a population survey based on a multi-stage area sample of private dwellings (currently about 30,000 houses, flats, etc.), and list samples of discrete Indigenous communities and non-private dwellings (hospitals, hotels, motels, etc.), and covers about 0.5% of the population of Australia. The information is obtained from occupants of selected dwellings by interviewers, with the first interview conducted face-to-face and subsequent interviews over the telephone. Once selected, households are included for eight consecutive months before being replaced.

Labour Force Survey

19 The LFS has been conducted on a monthly basis since February 1978. Prior to that, from 1964 to 1978, a national survey was conducted quarterly. Telephone interviewing was introduced between August 1996 and February 1997. New questionnaires have been introduced periodically, most recently in April 2001.

20 The LFS includes all usual residents of Australia aged 15 and over except:

- members of the permanent defence forces
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated population counts
- overseas residents in Australia
- members of non-Australian defence forces (and their dependants) stationed in Australia.

21 From July 1993, Jervis Bay Territory has been excluded from the scope of the LFS.

Supplementary surveys

22 The supplementary surveys collect additional data on a different topic each month. Many topics covered are rotated on an annual or less frequent basis, while others are included once only. Results from each supplementary survey topic are released separately. A list of topics covered in recent years is in Appendix 3.

23 Tables 4.1 and 4.2 contain data from the annual supplementary surveys Underemployed Workers and Persons Not in the Labour Force. These tables are updated annually.

24 The supplementary surveys include a subset of the persons included in the LFS (see paragraph 20). The additional exclusions for most supplementary surveys are:

- persons living in private dwellings in remote and sparsely settled parts of Australia
- institutionalised persons
- boarding school pupils.

Reference period

25 Interviews are generally conducted during the two weeks beginning on the Monday between the 6th and 12th of each month, with questions relating to the week prior to the interview (the reference week).

26 From time to time, changes to survey methodology affect the time series produced. Some examples of changes to this survey are: new questions added to the LFS questionnaire in April 2001; and the introduction of telephone interviewing in 1996-97.

Population benchmarks

27 LFS estimates of persons employed, unemployed and not in the labour force are calculated in such a way as to add up to independently estimated counts (benchmarks) of the civilian population aged 15 years and over. These benchmarks are based on Census data adjusted for under-enumeration and updated for births, deaths, interstate migration, and net permanent and long-term migration. This procedure compensates for under-enumeration in the survey, and leads to more reliable estimates.

28 Population benchmarks used in the estimation of LFS data are revised after each Census, when population estimation bases are

reviewed. These revisions affect original, seasonally adjusted and trend estimates. The last such revision was made in February 1999 to take account of the results of the 1996 Census. This revision affected all monthly estimates from January 1995 to January 1999. The next revision is scheduled for February 2004 to take account of the results from the 2001 Census.

Families series

29 Family relationship is not determined for all households and persons in scope of the LFS. This is due to a number of factors related to the scope and coverage of the LFS, as well as difficulties in determining family structure and characteristics. The survey questions used to determine family relationships are restricted to persons enumerated as usual residents of private dwellings. That is, the following persons are excluded:

- all persons enumerated in non-private dwellings (including hotels, motels, hospitals and other institutions)
- persons enumerated as visitors to (rather than usual residents of) private dwellings.

30 In addition, in those households where it is not possible to obtain information relating to all the usual residents, no family information is recorded. Thus, persons living in households which include a member of the permanent defence forces, who is outside the scope of the LFS, are excluded from survey questions used to determine family relationships. This also applies to households that, at the time of the survey, had one or more of their usual residents away for more than six weeks, and households from which an incomplete or inadequate questionnaire was obtained for any usual resident in scope of the survey.

Further information and data on the LFS

31 LFS estimates are published monthly in **Labour Force, Australia** (cat. no. 6202.0). A series of time-series spreadsheets are released at the same time as this publication. More detailed estimates are released, in electronic format, later each month. All electronic data can be accessed via the ABS web site. Additional data are available on request.

32 For further information about the range of LFS products and services, and the concepts and methodology used in the LFS, refer to **Information Paper: Changes to Labour Force Survey Products** (cat. no. 6297.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), or contact the Assistant Director, Labour Force Survey on Canberra 02 6252 6565.

EMPLOYER SURVEY DATA

33 Tables 2.11, 5.1-5.3, 6.1-6.2 and 7.1 of this publication contain data from ABS employer surveys.

Scope of employer surveys

34 Except where otherwise noted, the ABS labour employer surveys are selected from the ABS Business Register, which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding scheme and (prior to 1 June 2000) the Group Employer scheme. The population is updated quarterly to take account of new businesses, business that have ceased employing, changes in employment levels, changes in industry, and other general business changes. Businesses excluded from the scope of the employer surveys are:

- those primarily engaged in Agriculture, forestry and fishing (except for the Survey of Employment and Earnings)
- private households employing staff
- overseas embassies, consulates, etc.
- those located outside Australia.

JOB VACANCIES DATA

35 Table 7.1 contains data from the Job Vacancies Survey (JVS).

Description of the survey

36 The current Job Vacancies Survey has been conducted since November 1983 and is a quarterly sample survey of approximately 4,600 employers. The survey produces estimates of the number of job vacancies in Australia.

Reference date

37 The reference date for the survey is the third Friday of the middle month of the quarter.

Notes on data

38 Prior to the August quarter 1999, job vacancies statistics were collected as part of the Job Vacancies and Overtime Survey. The overtime component of the survey ceased following the May quarter 1999.

Further information

39 For further information about the range of products and services relating to ABS job vacancies statistics, and the concepts and methodology used, refer to **Job Vacancies, Australia** (cat. no. 6354.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), the associated time series spreadsheets available from the ABS web site, or contact the Manager, Job Vacancies Survey on Perth 08 9360 5304.

PUBLIC SECTOR EMPLOYEES DATA

Description of the survey

40 Data in table 2.11 are obtained from a quarterly survey of public sector businesses: the Survey of Employment and Earnings (SEE). This survey has been conducted on a quarterly basis since the September quarter 1983. The survey measures both the number of public sector wage and salary earners employed in the middle month of each quarter and their total quarterly earnings.

Reference period

41 The reference period for employees is the last pay period ending on or before the third Friday of the middle month of the quarter. The reference period for gross earnings is all pay periods which end within the quarter.

Notes on data

42 The private sector component of the Survey of Employment and Earnings was discontinued after the December quarter 2001.

Further information

43 For further information about the range of products and services relating to public service employees, and the concepts and methodology used, refer to **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), or contact the Manager, Survey of Employment and Earnings, Public Sector on Perth 08 9360 3141.

AVERAGE WEEKLY EARNINGS DATA

44 Table 5.2 contains data from the Survey of Average Weekly Earnings (AWE).

Description of the survey

45 The Survey of Average Weekly Earnings has been conducted quarterly since August 1981. Approximately 4,700 businesses contribute to the survey each quarter. The purpose of the survey is to measure average gross weekly earnings per employee job in Australia.

46 Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees. Changes in the averages may be affected not only by changes in the level of earnings of employees but also by changes in the overall composition of the wage and salary earner segment of the labour force.

Reference period

47 The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the quarter. For non-weekly payrolls, businesses are asked to provide one week's portion.

Further information

48 For further information about the range of products and services relating to average weekly earnings refer to **Average Weekly Earnings, Australia** (cat. no. 6302.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), the associated time series spreadsheets available from the ABS web site, or contact the Manager, Survey of Average Weekly Earnings on Perth 08 9360 5304.

WAGE COST INDEX DATA

49 Table 5.1 contains data from the **Wage Cost Index, Australia** (cat. no. 6345.0) publication.

Description of the survey

50 The Wage Cost Index (WCI) is a price index which measures changes over time in wage and salary costs for employee jobs, unaffected by changes in the quality or quantity of work performed. Changes in wages and salaries resulting from changes in the composition of the labour market are excluded from the WCI movements. Index numbers have been compiled and published since December quarter 1997 (with a reference base of September quarter 1997 = 100.0). Approximately 19,000 matched jobs from 4,100 qualifying businesses are priced each quarter.

Reference period

51 The reference period for the survey is the last pay period ending on or before the third Friday of the mid-month of the quarter.

Notes on data

52 The Wage Cost Index collection methodology has not changed since its inception in September quarter 1997.

Seasonally adjusted data

53 Experimental seasonally adjusted data have been released in **Wage Cost Index, Australia** (cat. no. 6345.0), commencing with the June quarter 2002 edition. The data is likely to continue to be noted as 'experimental' for at least the first two years the series are published.

54 The WCI uses a concurrent seasonal adjustment methodology to derive adjustment factors for its experimental seasonally adjusted series. This method uses the whole series available at each reference quarter to estimate seasonal factors. Concurrent adjustment can result in revisions each quarter to seasonally adjusted estimates for earlier periods, although the most significant change is likely to occur in the last quarter of the series previously published.

55 For more information about seasonally adjusted estimates from the WCI, see **Wage Cost Index, Australia** (cat. no. 6345.0) and the article titled **Seasonally Adjusting the Wage Cost Index: Experimental Estimates**, published in the April 2002 edition of **Australian Economic Indicators** (cat. no. 1350.0).

Further information

56 For further information about the range of products and services relating to the Wage Cost Index, and the concepts and methodology used, refer to **Wage Cost Index, Australia** (cat. no. 6345.0), **Information Paper: Wage Cost Index, Australia** (cat. no. 6346.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), the associated time series spreadsheets available from the ABS web site, or contact the Labour Price Index Output Group on Perth 08 9360 5151.

INDUSTRIAL DISPUTES DATA

57 Tables 6.1 and 6.2 contain data from the Industrial Disputes collection.

Description of the survey

58 The ABS has been collecting information about industrial disputes since 1913. The Industrial Disputes collection produces estimates of the number of industrial disputes (where ten or more working days are lost), employees involved, and working days lost.

59 The scope of the Industrial Disputes collection is restricted to employing businesses at which an industrial dispute has occurred. For this collection, industrial disputes are defined as work stoppages of ten working days or more. Ten working days are equivalent to the amount of ordinary time worked by ten people in one day, regardless of the length of the stoppage, e.g. 3,000 workers on strike for two hours would be counted as 750 working days lost (assuming they work an eight-hour day).

60 Effects on other establishments not directly involved in the dispute, such as stand-downs because of lack of materials, disruption of transport services, power cuts, etc. are not included in the scope of this collection.

Reference period

61 The collection reference period is the calendar month. Data on working days lost are collated and published on a quarterly basis in this publication.

Further information

62 For further information about the range of products and services relating to ABS industrial disputes statistics, and the concepts and methodology used, refer to **Industrial Disputes, Australia** (cat. no. 6321.0), **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), the associated time series spreadsheets available from the ABS web site, or contact the Manager, Industrial Disputes on Perth 08 9360 5159.

NATIONAL ACCOUNTS DATA

63 Table 5.3 contains data from the Australian National Accounts.

64 Estimates of compensation of employees are contained within the Income Accounts of the Australian National Accounts, which are published in **Australian System of National Accounts** (cat. no. 5204.0) and **Australian Economic Indicators** (cat. no. 1350.0). For further information on how estimates are obtained, see **Australian System of National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0).

INTERNATIONAL DATA

65 Table 1.8 contains data from the International Labour Organisation.

66 Estimates of key indicators of the labour markets from various countries have been included for comparison with Australian estimates of labour force participation, employment, unemployment and unemployment rates.

Glossary

Active steps to find work

Includes writing, telephoning or applying in person to an employer for work; answering an advertisement for a job; checking factory noticeboards or the touchscreens at Centrelink offices; being registered with Centrelink as a jobseeker; checking or registering with any other employment agency; advertising or tendering for work; and contacting friends or relatives.

Actual hours worked

The hours actually worked during the reference week, not necessarily hours paid for.

Adult employees

Adult employees are those employees 21 years of age or over and those employees who, although under 21 years of age, are paid at the full adult rate for their occupation.

Aggregate (actual) hours worked

The total number of hours a group of employed persons has actually worked during the reference week, not necessarily hours paid for.

Attending full-time education

Persons aged 15-24 years who were enrolled full-time at secondary school, high school, Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.

Average compensation per employee

National Accounts. The total compensation of employees divided by the number of employees.

Average earnings (National Accounts basis)

See **average compensation per employee**.

Average hours worked

Aggregate hours worked by a group divided by the number of persons in that group.

Average weekly earnings

Average weekly earnings represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees. For information about scope exclusions applying to employer surveys, refer to paragraph 34 of the Explanatory Notes.

Civilian population aged 15 years and over

All usual residents of Australia aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

Commonwealth government employees

Employees of all departments, agencies and authorities created by or reporting to the Commonwealth Parliament. Those bodies run jointly by the Commonwealth Government and state governments are classified to Commonwealth.

Compensation of employees

National Accounts. The total remuneration, in cash or in kind, payable by enterprises to employees in return for work done by the employees during the accounting period. Compensation of employees comprises wages and salaries (in cash and in kind) and **employers' social contributions**. Compensation of employees is not payable in respect of unpaid work undertaken voluntarily, including the work done by members of a household within an unincorporated enterprise owned by the same household. Compensation of employees excludes any taxes payable by the employer on the wage and salary bill (e.g. payroll tax, fringe benefits tax). See **Australian System of National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0) for further information.

Contributing family worker

A person who works without pay, in an economic enterprise operated by a relative.

Country of birth

Classified according to the **Standard Australian Classification of Countries (SACC)** (cat. no. 1269.0).

Couple families

A family based on two persons who are in a registered or de facto marriage and who are usually resident in the same household.

Dependent child

Any child in a family under 15 years of age or aged 15-24 years who is attending full-time education (except those who have a partner or child of their own usually resident in the household).

Dependent student

A child who is 15-24 years of age, who is attending full-time education, and who has no partner or child of his or her own usually resident in the same household.

Discouraged jobseekers

Persons with marginal attachment to the labour force who wanted to work and were available to start work within the next four weeks but whose main reason for not actively looking for work was that they believed they would not find a job for any of the following reasons:

- considered to be too young/too old by employers
- lacked necessary schooling, training, skills or experience
- difficulties because of language or ethnic background
- no jobs in their locality or line of work
- no jobs available at all.

Duration of unemployment

Under the redesigned LFS questionnaire, implemented in April 2001, the definition of duration of unemployment is the period of time from when an unemployed person began looking for work, until the end of the reference week; or the period of time since an unemployed person last worked in any job for two weeks or more, until the end of the reference week; whichever was the shorter period.

Prior to April 2001, duration of unemployment was defined in the LFS as the period of time from when an unemployed person began looking for work, until the end of the reference week; or the period of time since an unemployed person last worked full-time for two weeks or more,

until the end of the reference week; whichever was the shorter period.

Employed

Employed persons include all persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers)
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers)
- were employees who had a job but were not at work and were
 - away from work for less than four weeks up to the end of the reference week
 - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week
 - away from work as a standard work or shift arrangement
 - on strike or locked out
 - on workers' compensation and expected to return to their job
- were employers or own account workers, who had a job, business or farm, but were not at work.

Employed full-time

See **full-time employed**.

Employed part-time

See **part-time employed**.

Employee

Labour Force Survey and other household surveys. A person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece rates, or payment in kind, or a person who operates their own incorporated enterprise with or without hiring employees.

Employer surveys. Employees are wage and salary earners who received pay for any part of the reference period. For information about scope exclusions applying to employer surveys, refer to paragraph 34 of the Explanatory Notes.

Employee job

Wage Cost Index. A job for which the occupant receives remuneration in wages, salary, payment in kind, or piece rates. All employee jobs in all employing organisations (except those excluded from all ABS labour employer surveys) are in scope of the WCI, except the following:

- 'non-maintainable' jobs (i.e. jobs that are expected to be occupied for less than six months of a year)
- jobs for which wages and salaries are not determined by the Australian labour market (e.g. working proprietors of small incorporated enterprises, most employees of Community Development Employment Programs, jobs where the remuneration is set in a foreign country).

For information about scope exclusions applying to employer surveys, refer to paragraph 34 of the Explanatory Notes.

Employer

Labour Force Survey and other household surveys. A person who operates their own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees.

Employer surveys. A business with one or more employees.

Employers' social contributions

National Accounts. Contributions by employers to pension and superannuation funds; and premiums paid by employers to workers' compensation schemes for occupational injuries and diseases.

Extended labour force underutilisation rate

The unemployed, plus the underemployed, plus two groups of marginally attached to the labour force:

- (i) persons actively looking for work, not available to start work in the reference week, but available to start work within four weeks and
- (ii) discouraged jobseekers

as a percentage of the labour force augmented by (i) and (ii).

Family

Two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering; and who are usually resident in the same household. The basis of a family is formed by identifying the presence of a couple

relationship, lone parent-child relationship or other blood relationship. Some households will, therefore, contain more than one family.

Family reference person

In families which are not couple families or one-parent families, as defined, the family reference person is the eldest person in the household.

Former workers

Unemployed persons who have previously worked for two weeks or more but not in the last two years.

Full-time educational attendance

Persons aged 15-19 who, during the reference week were enrolled full-time at secondary or high schools, and those aged 15-24 who, during the reference week, were enrolled full-time at a Technical and Further Education (TAFE) college, university, or other tertiary educational institution.

Full-time employed

Household surveys. Persons employed full-time are those employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

Full-time employees

Employer surveys. Full-time employees are permanent, temporary and casual employees who normally work the agreed or award hours for a full-time employee in their occupation and received pay for any part of the reference period. If agreed or award hours do not apply, employees are regarded as full-time if they ordinarily work 35 hours or more per week.

Gross domestic product (GDP)

National Accounts. The total market value of goods and services produced in Australia within a given period after deducting the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus gross domestic product, as here defined, is at 'market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. See **Australian System of National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0) for further information.

Gross mixed income (GMI)

National Accounts. The owners of unincorporated enterprises, or other members of their households, may work without receiving any wage or salary. Mixed income includes both **gross operating surplus** for the unincorporated enterprises and returns for the proprietors' own labour (akin to wages and salaries). See **Australian System of National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0) for further information.

Gross operating surplus (GOS)

National Accounts. The amount of gross output remaining after subtracting costs incurred in producing that output, but before any deductions for consumption of fixed capital. See **Australian System of National Accounts: Concepts, Sources and Methods** (cat. no. 5216.0) for further information.

Household

A group of one or more persons in a private dwelling who consider themselves to be separate from other persons (if any) in the dwelling, and who make regular provision to take meals separately from other persons, i.e. at different times or in different rooms. Lodgers who receive accommodation but no meals are treated as separate households. Boarders who receive both accommodation and meals are not treated as separate households. A household may consist of any number of families and non-family members.

Industrial dispute

A withdrawal from work by a group of employees, or a refusal by an employer or a number of employers to permit some or all of their employees to work, each withdrawal or refusal being made in order to enforce a demand, to resist a demand, or to express a grievance.

Industry

An industry is a group of businesses or organisations that perform similar sets of activities in terms of the production of goods and services. Industry is classified according to the **Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993** (cat. no. 1292.0). The industry assigned to an employed person is the industry of the organisation in which the person's main job is located. Unemployed persons who had worked for two weeks or more in the last two years are classified according to the industry of their most recent job.

Job leavers

Unemployed persons who have worked for two weeks or more in the past two years and **left that job voluntarily** - that is, because (for example): of unsatisfactory work arrangements/pay/hours; the job was a holiday job or they left the job to return to studies; or their last job was running their own business and they closed down or sold that business for reasons other than financial difficulties.

Job losers

Unemployed persons who have worked for two weeks or more in the past two years and **left that job involuntarily** - that is, they were laid off or retrenched from that job; left that job because of their own ill-health or injury; the job was seasonal or temporary; or their last job was running their own business and the business closed down because of financial difficulties.

Job vacancy

A job vacancy is an employee job available for immediate filling on the survey reference date and for which recruitment action has been

taken. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation. Excluded are vacancies:

- for jobs which became vacant on the survey date and were filled that same day
- for jobs of less than one day's duration
- to be filled by persons already hired, or by promotion or transfer of existing employees
- to be filled by employees returning from paid or unpaid leave or after industrial dispute(s)
- not available for immediate filling on the survey reference date
- for work to be carried out by contractors
- for which no recruitment action has been taken
- where a person has been appointed but has not yet commenced duty
- to be filled by staff from contract labour agencies
- for jobs available only to persons already employed by the enterprise or organisation.

For information about scope exclusions applying to employer surveys, refer to paragraph 34 of the Explanatory Notes.

Labour force

The labour force is the labour supply available for the production of economic goods and services in a given period, and is the most widely used measure of the economically active population. Persons in the labour force are classified as either employed or unemployed according to their activities during the reference period by using a specific set of priority rules.

Labour force status

A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

Labour force underutilisation rate

The unemployed plus the underemployed, as a percentage of the labour force.

Local government employees

Employees of municipalities and shires and other local authorities created by or subject to the provisions of local government legislation, such as county councils in New South Wales.

Lone parent

A person who has no spouse or partner present in the household but who forms a parent-child relationship with at least one dependent or non-dependent child usually resident in the household.

Lone person

A person who makes provision for their food and other essentials for living, without combining with any other person to form part of a multi-person household. They may live in a dwelling on their own or share a dwelling with another individual or family.

Long-term unemployed

Persons unemployed for 12 months or more. See **duration of unemployment** for details of the calculation of duration of unemployment.

Long-term unemployment rate

The number of long-term unemployed persons expressed as a percentage of the labour force.

Marginal attachment to the labour force

Persons who were not in the labour force in the reference week, wanted to work, and:

- were actively looking for work but did not meet the availability criteria to be classified as unemployed or
- were not actively looking for work but were available to start work within four weeks or could start work within four weeks if child care was available.

The criteria for determining those in the labour force are based on activity (i.e. working or looking for work) and availability to start work during the reference week. The criteria associated with marginal attachment to the labour force, in particular the concepts of wanting to work and reasons for not actively looking for work, are more subjective. Hence, the measurement against these criteria is affected by the respondent's own interpretation of the concepts used. An individual respondent's interpretation may be affected by their work aspirations, as well as family, economic and other commitments.

Marital status

See **social marital status**.

Mean age

The sum of the ages of all the persons in a group, divided by the total number of persons in that group.

Mean duration of unemployment

The sum of the duration of unemployment of all the unemployed persons in a group, divided by the total number of unemployed persons in that group.

Median age

The age which divides a group of persons into two equal groups: one comprising persons whose age is above the median; and the other, persons whose age is below it.

Median duration of unemployment

The duration which divides unemployed persons into two equal groups: one comprising persons whose duration of unemployment is above the median; and the other, persons whose duration is below it.

Non-dependent child

A child of a couple or lone parent usually resident in the household, aged over 15 years and who is not a dependent student aged 15-24 years, and who has no partner or child of their own usually resident in the household.

Non-family member

A person who is not related to any other member of the household in which they are living.

Not in the labour force

Persons who were not classified as employed or unemployed.

Occupation

An occupation is a collection of jobs that are sufficiently similar in their main tasks to be grouped together for the purposes of classification. Occupation is classified according to the **ASCO - Australian Standard Classification of Occupations, Second Edition** (cat. no. 1220.0). The occupation assigned to an employed person relates to the person's main job. Unemployed persons who had worked for two weeks or more in the last two years are classified according to the occupation of their most recent job.

One-parent family

A family consisting of a lone parent with at least one dependent or non-dependent child (regardless of age) who is also usually resident in the household.

Ordinary time earnings

See **weekly ordinary time earnings**.

Original series

Estimates produced directly from the survey data, before seasonal adjustment or trend estimation takes place.

Other family

Related individuals residing in the same household who do not form a couple or parent-child relationship with any other person in the household and are not attached to a couple or one parent family in the household. If two brothers, for example, are living together and neither is a spouse, a lone parent or a child, then they are classified as other family.

Overtime earnings

See **weekly overtime earnings**.

Own-account worker

A person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires no employees.

Participation rate

The labour force participation rate for any group within the population is the labour force component of that population, expressed as a percentage of the population in that group.

Part-time employed

Household surveys. Persons employed part-time are those employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.

Reason for leaving last job

Unemployed persons who had worked for two weeks or more in the past two years classified by whether they left that job voluntarily, that is, jobleavers; or left that job involuntarily, that is, job losers.

Seasonally adjusted series

A time series of estimates with the estimated effects of normal seasonal variation removed. See paragraphs 7-13 of the Explanatory Notes for more detail.

Social marital status

Social marital status is the relationship status of an individual with reference to another person who is usually resident in the household. A marriage exists when two people live together as husband and wife, or partners, regardless of whether the marriage is formalised through registration. Individuals are, therefore, regarded as married if they are in a de facto marriage, or if they are living with the person to whom they are registered as married.

State capital cities

The areas determining the six state capital cities are the Statistical Divisions for those capital cities defined in the **Statistical Geography: Volume 1 - Australian Standard Geographical Classification (ASGC)** (cat. no. 1216.0).

State government employees

Employees of all State government departments and authorities created by, or reporting to, State Parliaments, including organisations for which the Commonwealth has assumed financial responsibility. Following self-government, the Northern Territory and the Australian Capital Territory administrations have been classified to State Governments. Employees of State Governments employed interstate are included in the estimates of the State in which they are based.

Status in employment

Employed persons classified by whether they were employees, employers, own account workers or contributing family workers.

Total earnings

See **weekly total earnings**.

Total hourly rates of pay index

Wage Cost Index. This index measures quarterly change in combined ordinary time and overtime hourly rates of pay. See **Wage Cost Index, Australia** (cat. no. 6345.0) for more information.

Trend series

A smoothed seasonally adjusted series of estimates. See paragraphs 7-13 of the Explanatory Notes for more detail.

Underemployed workers

Underemployed workers are employed persons who want, and are available for, more hours of work than they currently have. They comprise:

- persons employed part-time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey
- persons employed full-time who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full-time in the reference week and would have been available to do so.

Unemployed

Persons aged 15 years and over who were not employed during the reference week, and

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and
 - were available for work in the reference week, or
 - were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

Unemployed looking for first full-time job

Unemployed persons looking for full-time work who had never worked full-time for two weeks or more.

Unemployed looking for first job

Unemployed persons who had never worked for two weeks or more.

Unemployed looking for full-time work

Unemployed persons who:

- actively looked for full-time work at any time in the four weeks up to the end of the reference week, and were available for work in the reference week, or
- actively looked for work at any time in the four weeks up to the end of the reference week, and were not available for work in the reference week because they were waiting to start a new full-time job.

Unemployed looking for part-time work

Unemployed persons who:

- actively looked for part-time work only at any time in the four weeks up to the end of the reference week, and were available for work in the reference week, or
- actively looked for work at any time in the four weeks up to the end of the reference week, and were not available for work in the reference week because they were waiting to start a new part-time job.

Unemployment rate

The number of unemployed persons expressed as a percentage of the labour force.

Unemployment to population ratio

For any group, the number of unemployed persons expressed as a percentage of the civilian population aged 15 and over in the same group.

Usual hours worked

The hours usually worked per week by an employed person.

Wage and salary earners

See **employee**.

Weekly ordinary time earnings

Weekly ordinary time earnings refers to one week's earnings of employees for the reference period attributable to award, standard or agreed hours of work, calculated before taxation and any other deductions (e.g. superannuation, board and lodging) have been made. Included are piecework payments and one week's portion of regular production and task bonuses and commissions. Excluded are overtime payments and payments not related to the reference period, e.g. bonus payments for earlier periods of work.

Weekly overtime earnings

Weekly overtime earnings refers to payment for hours worked in the reference week in excess of award, standard or agreed hours of work, calculated before taxation and any other deductions (e.g. superannuation) have been made.

Weekly total earnings

Weekly total earnings of employees is equal to weekly ordinary time earnings plus weekly overtime earnings.

Working days lost

Refers to working days lost by employees directly and indirectly involved in an industrial dispute. For some disputes working days lost are estimated on the basis of the number of employees involved and the duration of the dispute.

Working days lost per thousand employees

Calculated by dividing the total number of working days lost by the total number of employees and multiplying by 1,000. The number of employees is obtained from the Labour Force Survey.